

What is claimed is:

1. Microparticles comprising
  - a) at least one biologically degradable polymer, and
  - b) optionally at least one water soluble polymer, and
  - c) at least one pharmacologically active ingredient distributed in the polymer
  - d) containing a phospholipid or lecithin
2. Microparticles according to claim 1 wherein the amount of phospholipid or lecithin is from about 0.01 to about 90%, preferably from about 0.1 to about 70%, most preferably from about 0.1 to about 20%.w/w of the final MP weight
3. Microparticles according to claim 1, which have a diameter of 0.1 to 200 µm.
4. Microparticles according to claim 1, in which the biologically degradable polymer comprises homo- or copolyester of dicarboxylic acid, alkylene diol, polyalkylene glycol and/or aliphatic hydroxycarboxylic acid; homo- or copolyamide of dicarboxylic acids, alkylene diamine and/or aliphatic aminocarboxylic acid; corresponding polyester-polyamide copolymer; polyanhydride; polyorthoester; polyphosphazene; and polycarbonates.
5. Microparticles according to claim 4, in which the polymer is poly-L- or poly-D,L-lactic acid or poly-D,L-lactide/glycolide with a monomer ratio of ca. 1:1 and a molecular weight of 5000 to 100,000 daltons.
6. Microparticles according to claim 5 comprising optionally at least one water-soluble polymer.
7. Microparticles according to claim 6, wherein the water-soluble polymer is polyvinyl pyrrolidone.
8. Microparticles according to claim 1, in which the amount of biologically degradable polymers is 99 to 1% by weight, and the amount of water-soluble polymers is 1 to 99% by weight, based on the composition of the polymers.

9. Microparticles according to claim 1, in which the phospholipid is phosphatidyl choline.
10. Microparticles according to claim 1, in which the active ingredients are peptides, polypeptides and proteins.
11. Microparticles according to claim 10, in which the active ingredients are antibodies, growth hormones, insulin, interferons, erythropoietin, calcitonin, heparin, somatostatins, cell-stimulating factors and parathyroid hormones.
12. Microparticles according to claim 11 wherein the interferon is interferon alpha 2b.
13. Microparticles according to claim 1, which contain 1 to 20% by weight active ingredient, based on the weight of the microparticles.
14. Method of producing microparticles, comprising the steps
  - a) dissolving an active agent in a phosphate buffer
  - b) dissolving a biodegradable polymer and phospholipid in methylenechloride
  - c) mixing a surfactant with phosphate buffer to form an aqueous solution
  - d) mixing solution a) and b) using a gear pump to form an emulsion
  - e) pumping emulsion d) and the aqueous solution c) with a gear pump to a static mixer and mixing them in the static mixer to form a water in oil in water emulsion
  - f) removing e.g. evaporating the solvent from emulsion e)
  - g) separating the microparticles by filtering and freeze-drying
15. The process according to claim 14 wherein the solvent is removed from the microparticles using cross-filtration technology by
  - a) circulating emulsion e) tangentially to a membrane e.g. polymer membrane, e.g. a ceramic membrane, e.g. hollow fibers or e.g. spiral wound systems at a constant flow wherein methylenchloride, salts and excipients are removed through the membrane
  - b) replacing water removed through the membrane by fresh water
  - c) separating the microparticles by filtering and freeze-drying